SIEMENS

Siremobil Iso-C

SP

System Manual

Installation Instructions

Deinstalling the 2D Navigation MEDIVISION

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Safety information

⚠CAUTION	**When performing the work steps and tests described herein, observe the product-specific safety information contained in the documents, as well as the general safety information TD00-000.860.01....**

Notes and symbols

Emphasized texts in technical documentation have the following meaning:

⚠DANGER	**DANGER indicates an immediate danger that if disregarded will cause death or serious physical injury.**
⚠WARNING	**WARNING indicates a possible danger that if disregarded can cause death or serious physical injury.**
⚠CAUTION	**CAUTION used with the safety alert icon indicates a possible danger that if disregarded will or can lead to minor or moderate physical injury and/or damage to property.**
NOTICE	**NOTICE used without the safety alert icon indicates a possible danger that if disregarded may or will lead to an undesirable result or state other than death, physical injury or property damage.**

Validity of these instructions

These instructions are valid for dismantling the 2D Navigation MEDIVISION from existing SIREMOBIL Iso-C systems.

NOTE	**If a new navigation system from another manufacturer is used as replacement, then the descriptions corresponding to the Installation Instructions 3D Navigation, SPR2-230.814.03.... and the Software Description 3D Reconstruction and 3D Navigation, SPR2-230.815.01.. must be observed.**

Parts required

Deinstallation kit for 2D Navigation MEDIVISION Mat. No. 71 41 208

Auxiliary devices required

Tool case

1 sharp knife

1 steel ruler

1 socket 30mm

1 ratchet for socket 30mm

Required Documents

- System manual for the system
- Service instructions for the system
- With available 3D reconstruction in addition:
  Installation Instructions 3D Navigation, SPR2-230.814.03....
  Software Description 3D Reconstruction and 3D Navigation, SPR2-230.815.01...
- Logbook for the system
- IQ quick test of the system

Deinstalling the marker cylinder

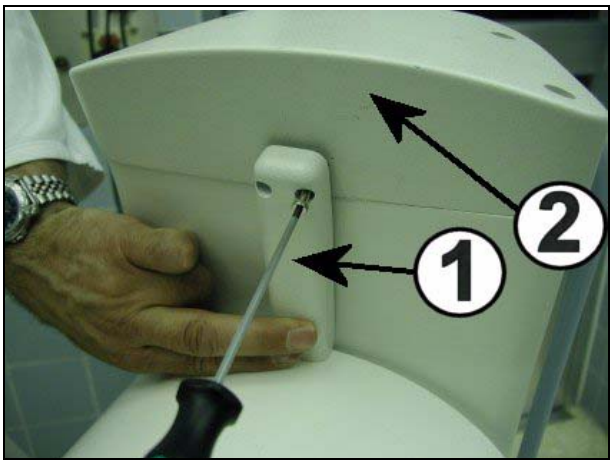

Fig. 1 Deinstalling the cable guide

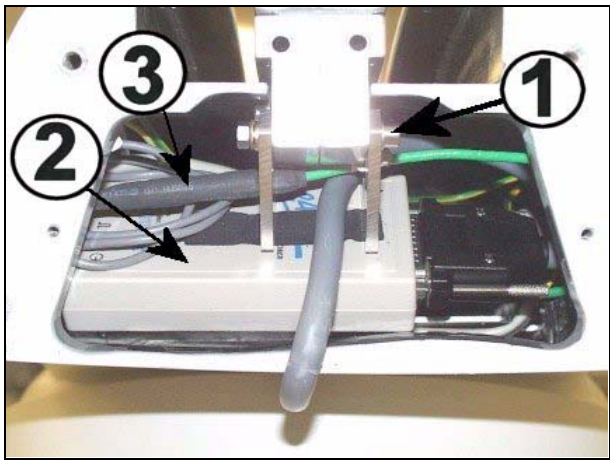

Fig. 2 Deinstalling the strober box

- Switch the system on.
- Turn the C-arm orbitally into the 45° position.
- Turn the C-arm angulation into the 0° position.
- Reactivate all C-arm brakes (swivel / angulation / orbital), the LEDs of the brake buttons are off.
- Switch the system back on.

NOTE	**The cover of the C-arm weighs approx. 6 kg. Hold it firmly when removing it!**

- Remove the cable cover (1/Fig. 1).
- Loosen the 4 screws of the C-arm cover (2/ Fig. 1) and remove the cover.
- Loosen the screw (1/ Fig. 2) and remove the support bracket of the strober box.
- Retighten the screw (1/Fig. 2) without the support bracket.
- Remove the strober box (2/ Fig. 2) from the C-arm.
- Loosen and disconnect the SUB-D plug from the strober box.
- Pull the round Lemosa plug off from the strober box.
- The strober box is no longer required.
- Remove the shrink hose (3/Fig. 2).
- Loosen the Lemosa plug connection. The loose cable is no longer required.
- Insulate the cable end connected with the C-arm cable. Make sure that the metal Lemosa plug is completely insulated and can cause no short circuits.
- Stow the cable end in the inside of the C-arm. Make sure that the cable does not lie on the electronic unit of the X-ray image intensifier power supply and can also not block the camera rotation of the VIDEOMED DC.

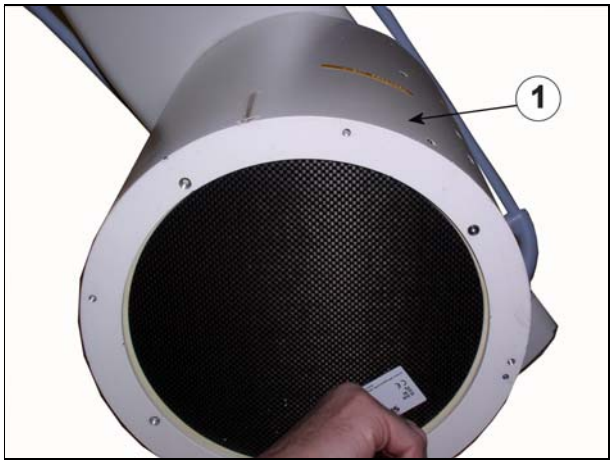

Fig. 3 Dismantling the grid

Fig. 4 Installation of grid in grid holder

- Loosen the mounting screws of the grid.
- Remove the grid.
- If still present, cut off the two leads soldered to the microswitch, insulate the lead ends and stow them in the recess of the X-ray image intensifier.
- Carefully remove the grid from the gird holder without great pressure.
- Lightly brush with silicone in the surrounding groove of the metal grid holder included in the scope of supply.

Insert the grid in the grid holder as shown in Fig. 4. Let the glue dry during the following work.

.

Fig. 5 Marker cylinder silicon sealing

Fig. 6 Deattaching the Marker cylinder

- The marker cylinder (1/Fig. 3) is sealed all round with silicone (Fig. 5).
- Remove the silicone with a sharp knife.
- Insert a steel ruler between the X-ray image intensifier housing and the marker cylinder and detach the marker cylinder from the image intensifier housing.
- Withdraw the marker cylinder from the X-ray image intensifier housing.
  The loose cable is no longer required.
- Remove the remainder of the silicone from the X-ray image intensifier housing.

Deinstalling the basic unit cabling

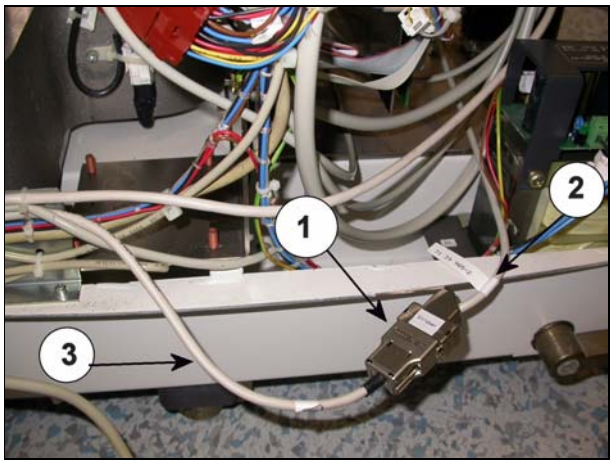

Fig. 7 Deinstalling the cabling

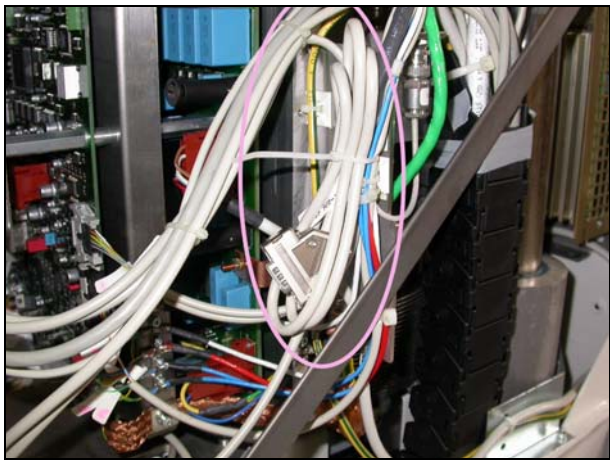

Fig. 8 Deinstalling the cabling

- Disconnect the system from the power supply, and pull out the power plug.

⚠WARNING

Electric voltage!
Non-compliance can lead to death.
Be absolutely sure to pull out the power plug before working on the power-up circuit in the monitor trolley!

- Open the paneling of the basic unit.
- Remove the plug connection (1/Fig. 7). The right-hand plug (2 / Fig. 7) is designated "Strober".
- Fasten the left-hand cable end (3 / Fig. 7) with cable ties to the chassis.
  Make sure that neither plug nor cable can get under moving parts (e.g. vertical lifting column) and that they cannot touch any electrical components.
- Pull the right-hand cable end (2 / Fig. 7) back to the other side of the basic unit, wind it up and fasten it with cable ties (Fig. 8).
  Make sure that neither plug nor cable can get under moving parts (e.g. vertical lifting column) and that they cannot touch any electrical component.

Deinstalling the monitor trolley cabling

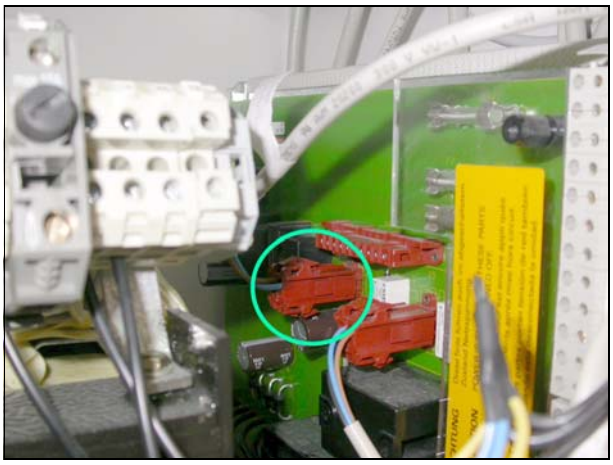

Fig. 9 Deinstalling the cabling D50.X4

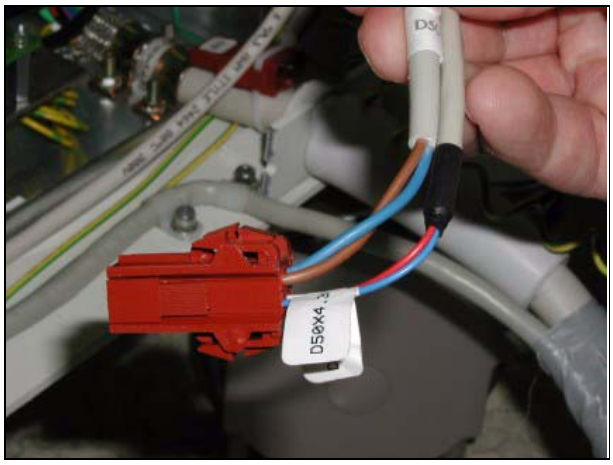

Fig. 10 Deinstalling the cabling D50.X4

- Disconnect the system from the power supply, and pull out the power plug.

⚠WARNING

Electric voltage!
Non-compliance can lead to death.
Be absolutely sure to pull out the power plug before working on the power-up circuit in the monitor trolley!

- Open the rear paneling of the monitor trolley.
- Open the cover of the logbook compartment.
- Loosen the plug D50X.4 at the ON/OFF assembly.
- Eject the two leads D50.X4.3 and D50.X4.4 (Fig. 10).
- Plug the D50.X4 plug back in.

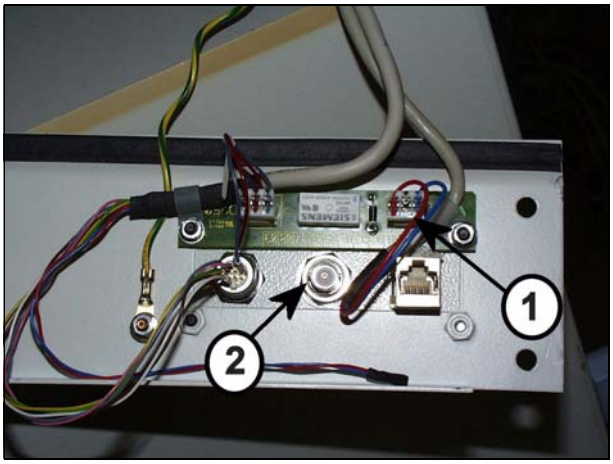

Fig. 11 Deinstalling the cabling D250

Fig. 12 Terminating resistor 75 ohms

- Pull off the plug X1 on the cover of the logbook compartment (1 / Fig. 11).
- Pull the cable completely out from the monitor trolley. The cable is no longer required..

NOTE

The video cable connected to the BNC socket (2 / Fig. 11) and to OUT 3 of the MEMOSKOP (or to the video output of an existing video component) can remain in the monitor trolley at the request of the customer. The customer must be informed that without the external video component the plug-in terminating resistor (Fig. 12) must be plugged in.

- Have the video cable (2 / Fig.1 1) wired at the customer's request.
- Otherwise disconnect the existing video cable from the MEMOSKOP, socket OUT3 or with built-in video component (video printer or video recorder) from the output socket.
- Disconnect the other end of the video cable from the BNC socket (2 / Fig. 11).
- Pull the video cable out from the monitor trolley. The video cable is no longer required.
- If the video cable was disconnected from the video output of a video component, make sure that the video component is terminated with 75 ohms.

CAN cable

Fig. 13 Deinstalling the CAN-Bus strain relief

NOTE	**With existing 3D reconstruction option the CAN-Bus connection cable (run together with the monitor cable in the zipper hose) remains between the monitor trolley and basic unit.** **Without the existing 3D reconstruction option, the zipper hose and the CAN-bus connection cable can be removed at the customer's request.**

- Ask the customer if the CAN-Bus connection cable should be removed. The CAN-Bus connection cable can remain installed, for example, if retrofitting the 3D reconstruction is planned.
- If the CAN-Bus connection cable should be removed, proceed as follows:
  - In the monitor trolley open the strain reliefs of the CAN-Bus connection cable (Fig. 13).
  - Loosen the SUB-D plug of the CAN-Bus connection cable.
  - Remove the CAN-Bus connection cable from the monitor trolley.
  - Secure mechanically with cable ties any loose plug connection(s) in the monitor trolley.
  - The zipper hose is secured at both ends with adhesive tape. Remove the adhesive tape at both ends.
  - Open the zipper hose.
  - Remove the CAN-Bus connection cable. This is no longer required.
  - Remove any adhesive residues from the monitor cable.

Installation of grid holder with grid.

- Fasten the grid holder with the grid back onto the X-ray image intensifier housing as shown in Fig. 4.

C-arm counterbalance

Counterbalance on the image intensifier side

Fig. 14 C-arm cover on the image intensifier side

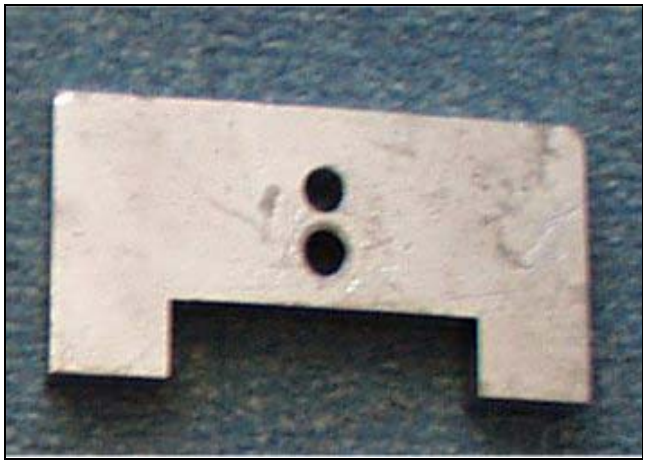

Fig. 15 Counterweight 0.5 kg

- If not yet done, loosen the C-arm cover on the image intensifier side. Hold it firmly while loosening. The C-arm cover weighs approx. 6 kg.
- Remove all lead weights fastened to the C-arm cover.
- Insert the counterweight (3.15 kg / Fig. 14) in the C-arm cover.
- Insert in addition 2 counterweights (each 0.5 kg / Fig. 15) and fasten them with an Allen screw of suitable length.
- Refit the C-arm cover on the image intensifier side.

Counterbalance on the tube assembly side

Fig. 16 C-arm cover on the tube assembly side

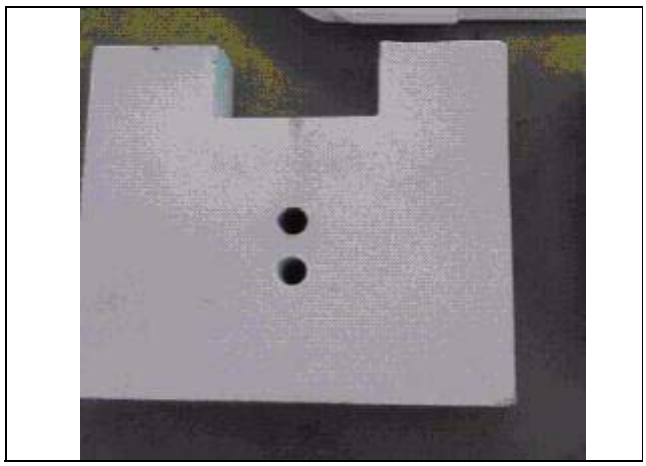

Fig. 17 Counterweight 1.2 kg

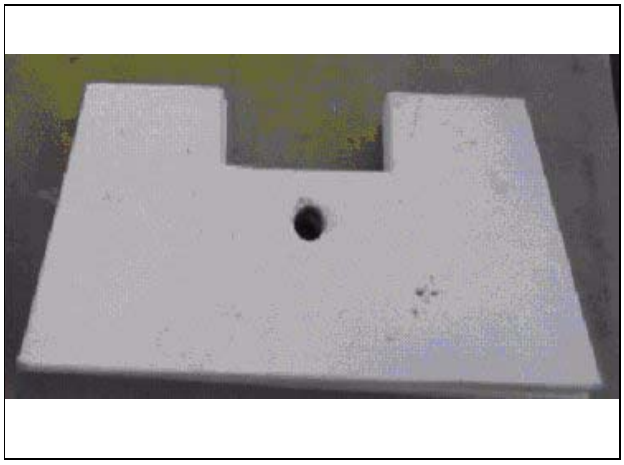

Fig. 18 Counterweight 0.97 kg

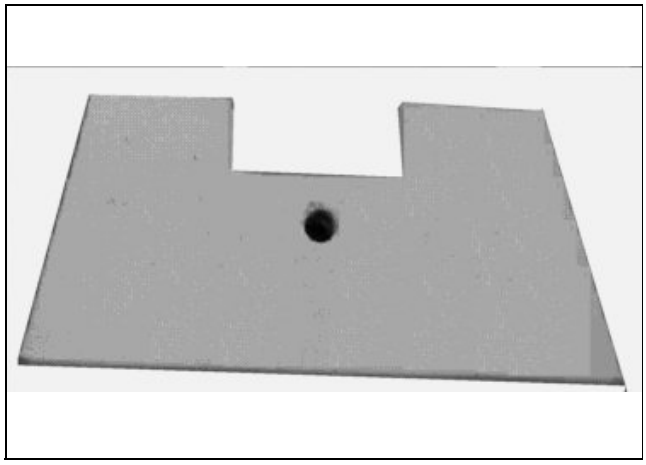

Fig. 19 Counterweight 0.32 kg

- If not yet done, loosen the C-arm cover on the tube assembly side.
  Hold it firmly while loosening. The C-arm cover weighs approx. 6 kg.
- Remove all lead weights fastened to the C-arm cover.
- Insert 1 counterweight (Fig. 17) and 2 counterweights (each 0.97 kg / Fig. 18) in the C-arm cover and fasten them with Allen screw of suitable length.
- Refit the C-arm cover on the tube assembly side.

NOTE

There are a further 4 counterweights in the deinstallation kit (Fig. 19) with a weight each of 0.3 kg, which can be installed as required.
Refer to the following paragraph "testing the counterbalance".

Testing the counterbalance

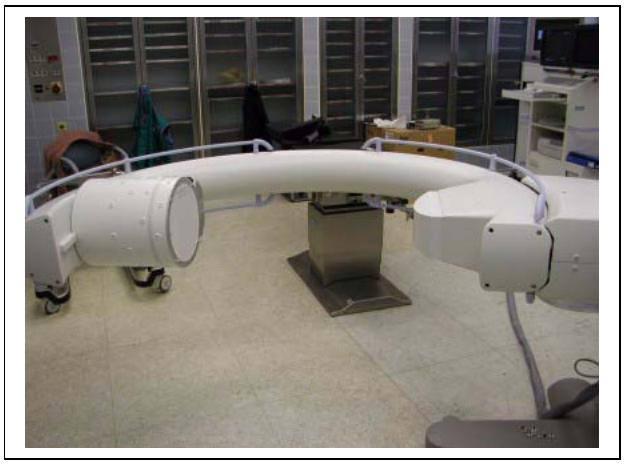

Fig. 20 Testing the mechanical drift angulation

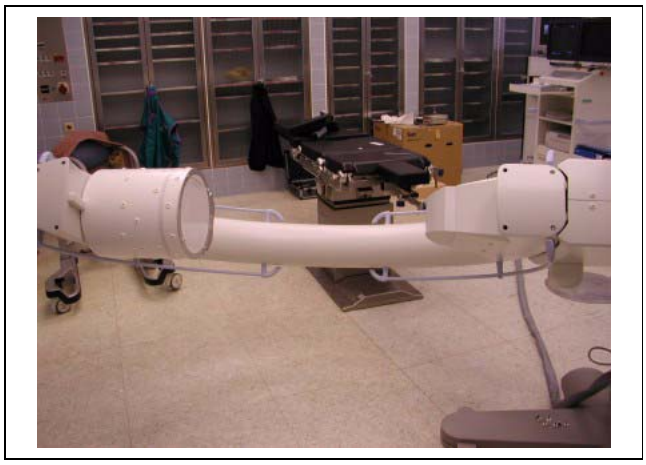

Fig. 21 Testing the mechanical drift angulation

NOTE

Because of the spring effect of the cable module (wound up cables) different weights can be necessary for the counterbalance.

Angulation

- Plug the system into the mains and switch it on.
- Bring the C-arm into position as shown in Fig. 20.
- Release the angulation brake.
- If the C-arm, as shown in Fig. 21, tilts in the angulation, readjust the angulation brake.
  - Loosen the round dummy cover under the handle on the horizontal carriage.
  - Tighten the nut on the angulation brake tighter with a 30mm socket wrench just until the C-arm no longer moves on its own when the angulation brake is released.
  - Refit the round dummy cover after the adjustment.

Fig. 22 Testing the mechanical drift orbital

Fig. 23 Testing the mechanical drift orbital

Orbital

- Plug the system into the mains and switch it on.
- Release the orbital brake.
- Bring the C-arm into the end position
  (= 95 position, in the end stop) as shown in Fig. 22
- Apply the orbital brake.
- Release the orbital brake again after a few seconds.
- The C-arm should not move more than 10 degrees orbitally.
- Turn the C-arm in the angulation by 180 degrees.
- Move the C-arm orbitally until the tube assembly lies in the end stop of the holder.
- Apply the orbital brake in this position.
- Release the orbital brake again after a few seconds.
- The C-arm should not move more than 10 degrees orbitally.
- Adapt the counterweights in the case of a deviation (removing or adding counterweights).
- Finally, fit the determined counterweights on the two C-arm covers with Allen screws of suitable length.

Installing the covers

- Refit all covers.
- On the image intensifier side seal the cable penetration and the two threaded holes (fastening of the cable cover (1/ Fig. 1)) on the C-arm cover with white silicone.

Functional checks

- Perform the protective ground wire test according to TD00-000.860.01... . The protective ground wire resistance must not exceed 0.2 ohm.

- Test the basic functions of the system. (brakes, C-arm movements, radiation, collimation, camera rotation, image storage functions).
  Observe radiation protection during this process!

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With available 3D reconstruction option

Testing the navigation license

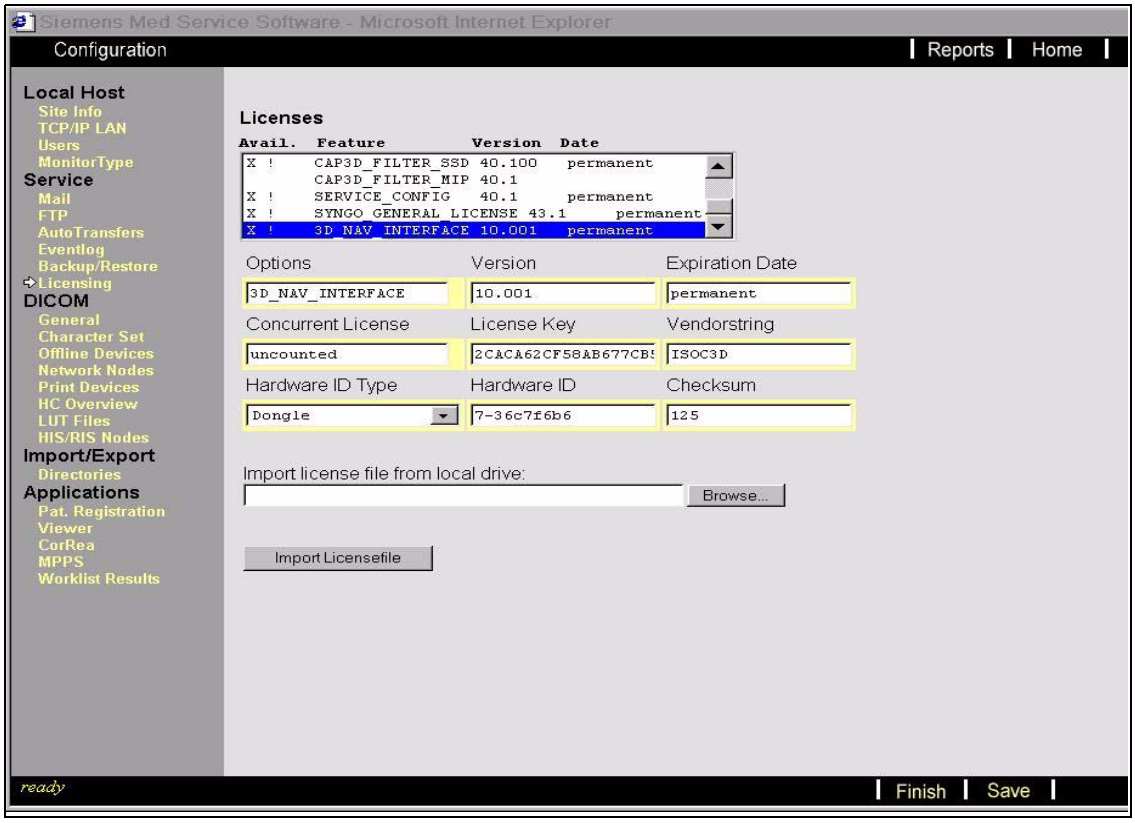

Fig. 1 3D navigation license

NOTE	**The 3D navigation license was already generated and delivered together with the Medivision 2D navigation for systems with existing 3D reconstruction option. In the normal case the license is already loaded in the 3D PC.**

Prerequisite: The system is switched on and ready.

- Display the images shown by the 3D PC on the right-hand monitor (CTRL + D).
- Call up local service.
- The license must be available as shown in Fig. 1.
- If the "3D_NAV_INTERFACE" license is not available, find the license floppy disk (logbook) and load the license.

Removing the DICOM programming for MEDIVISION 2D navigation

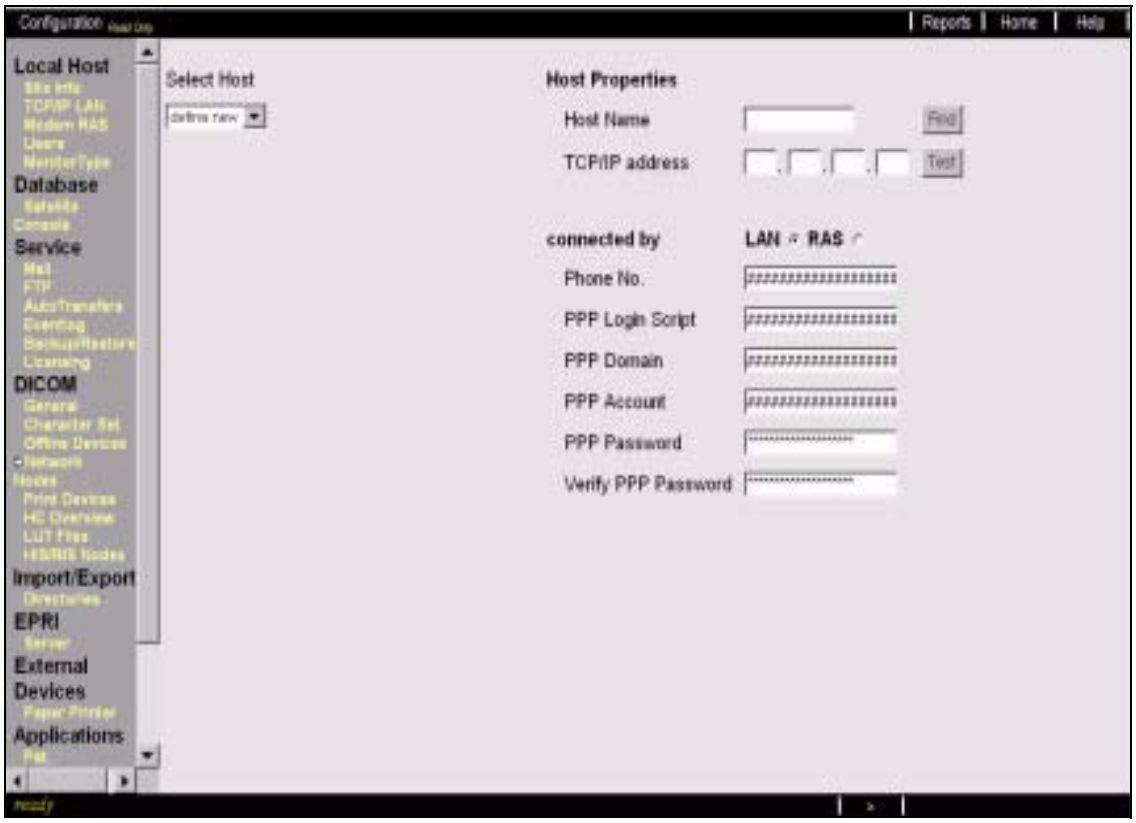

Fig. 2 DICOM network - host mask

NOTE

If the data to be removed from the Medivision 2D navigation network link are not known, obtain this information from the responsible network administrator.

- Select the DICOM Network menu.
- Under "Select Host" select the Medivision 2D navigation settings.

Go to the next dialog with ">".

.

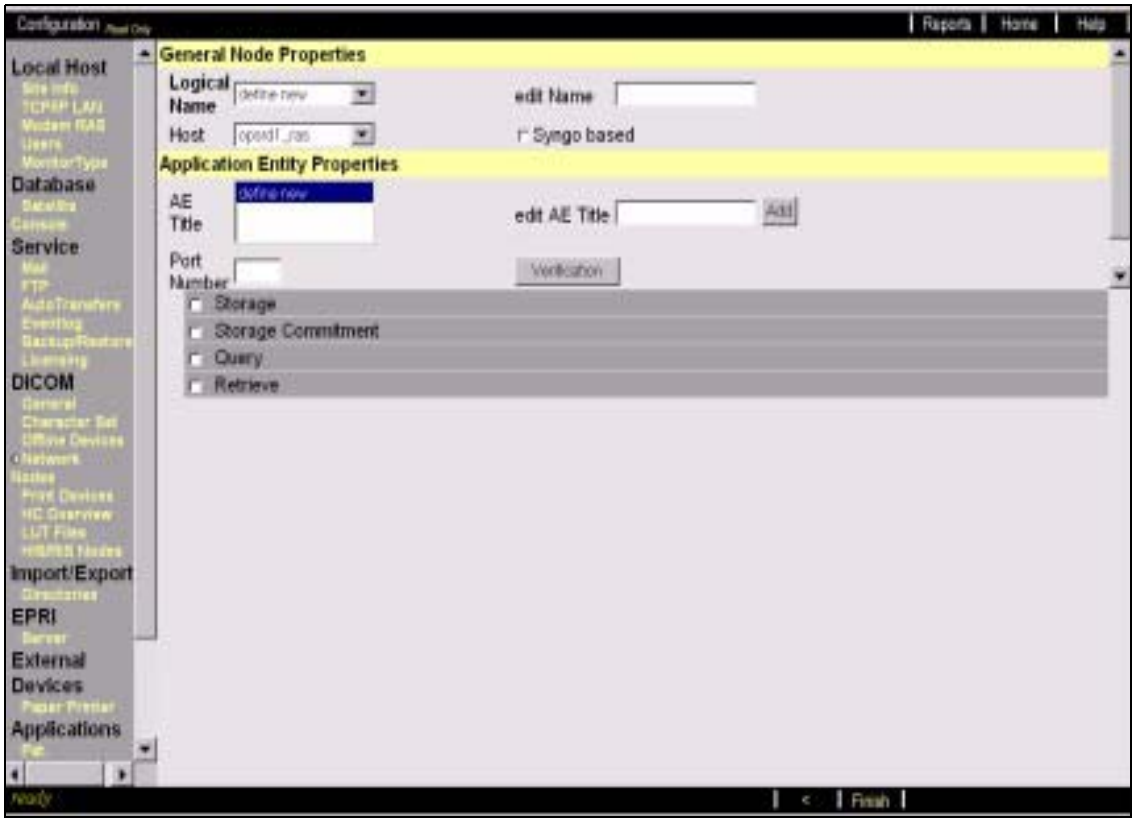

Fig. 3 3D navigation license

- Select the "Logical Name" of the MEDIVISION 2D navigation.
- Select the "Host" of the MEDIVISION 2D navigation.
- Delete both the AE Title and the Logical Name of the MEDIVISION 2D navigation. Observe the menu guidance of the service software.
- The PC must be restarted to activate the changes (if this is not done automatically).
- After restarting select the DICOM Network menu again and delete in the dialog Fig. 2 the host name and the TCP/IP data of the MEDIVISION 2D navigation.
- The PC must be restarted to activate the changes (if this is not done automatically).
- After booting check once again that the deleted data are no longer available.

NOTE

If a new navigation system is used as replacement in combination with the SIREMOBIL Iso-C, the new network data can be entered in the dialogs.
Note that in the dialog Fig. 3 the Logical Name must always begin with prefixed text "N_".
See document "Software Description: 3D Reconstruction and 3D Navigation", chapter "Syngo Configuration".

- Check the network functions after programming.

Calibration of 3D reconstruction

NOTE	**Because of the changed weight conditions of the C-arm with its components, the calibration of the 3D reconstruction must be performed.**

- Perform the calibration of the 3D reconstruction. See IQ quick test. Observe radiation protection during this process!

NOTE	**If a new navigation system is used as replacement in combination with the SIREMOBIL Iso-C, the calibration must be performed also with attached navigation hood and in cooperation with the technician for the new navigation system.**

- Check the limiting resolution of the 3D reconstruction. See IQ quick test
- Final work
- If covers have had to be removed, refit these.
  Then perform the protective ground wire test according to TD000-000.860.01... .
  The protective ground wire resistance must not exceed 0.2 ohm.

New publication

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